Shipboard Environmental Protection News

Navy Shipboard Environmental Information Clearinghouse

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INSIDE

Voices from the Fleet

Annual Fleetwide Survey Responses Are In!

The Navy Fleet is eager to comply with environmental regulations, according to the 1997 Fleetwide survey results. NAVSEA's four-person survey team also found, however, that more crew training in environmental issues, equipment, and procedures is an important need, based on the interviews conducted on 17 Navy ships.

To get Fleet input on environmental issues and identify actions to alleviate concerns, the surveyors visited San Diego, CA, and Norfolk, VA, and administered the NAVSEA-developed Fleetwide Environmental Questionnaire (FWEQ) to CV/CVNs, L-Class, CGs, DD/DDGs, FFGs, and an AOE. The two 1-week visits produced more than 500 responses from interviews conducted across the complete command structure from Commanding Officer to deckplate Sailor.

The survey team found the ships well prepared and eager to share their experiences and ideas for the future of environmental protection systems and procedures. Clearly, the Fleet is "trying to do the right thing" and is

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Get To Know Your Afloat Environmental Protection Coordinator

Navy's New Requirement Works Wonders on Ships

A new Fleet requirement, according to *OPNAVINST 5090.1B* Change 1 (19.2.2.11), is for each ship to have an Afloat Environmental Protection Coordinator (AEPC), who advises the Commanding Officer on the program's requirements and responsibilities.

An important person on board, the AEPC is the crew's point of contact for all questions about crew roles and responsibilities for dealing with onboard waste. Your AEPC understands the myriad of environmental requirements and can help you and your ship meet all requirements and avoid violations. For example, ***LT Matt Ott***, USS *Decatur* Supply Officer and AEPC, told the ship solid waste conference in San Diego, CA (see story, page **6**)

▲***Afloat Environmental Protection Coordinator* LT Matt Ott *and NAVSEA 03L engineer* Ms. Ye-Ling Wang *inspect the compress-melt unit of a plastics waste processor aboard the USS* Decatur**

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ODS Advisory Update

NAVSEA RECENTLY SIGNED OUT *Navy ODS Advisory 96-01B, Subj: Ozone-Depleting Substance (ODS) Supply Support*, which cancels and replaces *Navy ODS Advisory 96-01A*. Major additions follow:

- Outline of expected ODS shipment schedules (both CONUS and OUTCONUS) and emergency contact numbers
- Explanation of the false OPTAR problem: Most ODS requisitioned from the Reserve is free to authorized users, but some shipboard computer systems may temporarily obligate OPTAR funds when they are used to submit ODS requisitions
- Procedures for requisitioning and turning in 2.75-pound Halon 1301 portable fire extinguishers (NSN 6830-00-555-8837)
- Procedures for ODS supply support for shipboard non-mission-critical, auxiliary refrigeration equipment and low-pressure air dehydrators
- Procedures for requisitioning and turning in dual-port specification gas (virgin) CFC cylinders (only Navy shipboard applications)
- Procedures for turning in mixed DOD ODS Reserve products
- List of items not covered by the ODS Reserve
- Procedures for turning in ODSs to the European Collection Site at the Defense Distribution Depot Europe (DDDE), Germersheim, Germany
- Procedures for turning in ODSs to the Pacific Collection Site at the Fleet Industrial Supply Center (FISC), Pearl Harbor, HI
- Updated Points of Contact
- Updated list of NSNs for requisitioning ODSs from the DOD ODS Reserve; ordering empty ODS recovery cylinders; labeling excess or recovered Halons, refrigerants, or solvents in any type of cylinder or container to turn in to the DOD ODS Reserve; and labeling empty specification gas (virgin) product cylinders to turn in to the DOD ODS Reserve.

▶ To obtain a copy of this advisory, see the Navy SEIC home page at ***www.navyseic.com*** or contact the Clearinghouse.

For the 1999 Course Catalog of NAVOSHENVTRACEN courses (see story, above right), go to www.norva.navy.mil/navosh/coinfo.htm or call 757/445–8778, DSN 565–8778

What's the NAVOSH Training Center?

THE NAVAL OCCUPATIONAL SAFETY AND Health and Environmental Training Center (NAVOSHENVTRACEN) evolved from the original NAVSEA Safety School in Bloomington, IN, founded in 1967. The school moved from Indiana to Norfolk, VA, and expanded its mission to include shore and afloat occupational safety and health, hazardous materials, and afloat environmental protection training. In 1995 the school further expanded when renovations were completed on the new classroom facility at NAVOSHENVTRACEN WEST, at Naval Air Station North Island, San Diego, CA, giving the command training sites on both coasts. NAVOSHENVTRACEN also provides more than 40 courses worldwide in major Navy homeports and at overseas locations.

▶ To learn more about NAVOSHENVTRACEN or to get a complete list of courses offered, see the NAVOSHENVTRACEN home page at ***www.norva.navy.mil/navosh***. For a course catalog, contact NAVOSHENVTRACEN at 757/445–8778 or DSN 565–8778, x300; fax your address to Code 101 at 757/445–0456 or DSN 565–0456; or write:

Commanding Officer, Naval Occupational Safety and Health and Environmental Training Center
9080 Breezy Point Crescent
Norfolk, VA 23511–3998

NAVOSHENVTRACEN is the primary source of environmental training for shipboard personnel. Courses offered to shipboard personnel include the following:

- **Afloat Environmental Protection Coordinator** (A-4J-0021)
- **Afloat Hazardous Material Coordinator** (A-8B-0008)
- **Consolidated Hazardous Material Reutilization and Inventory Management Program** (CHRIMP)/ Hazardous Material Inventory Control System (HICS) Workshop
- **Hazardous Material Control and Management** (HMC&M) Technician (A-322-2600)

☞ **Your NAVOSHENVTRACEN POC:** LT Hulett, Head, Afloat Training Division, 757/445–8778 x330, DSN 565, lt.hulett@smtp.cnet.navy.mil

Baffled by a plethora of acronyms? See page 13 for *ALPHABET SOUP FOR NON-NAVY TYPES*, a quick-reference glossary to help guide you through this newsletter!

Oops! We Goofed! Corrections Below:

① "The Latest on Refrigerant Leak Detectors" article (page 5 of the June 1998 issue of *SEP News*) lists the wrong AEL number for the fluorescent-dye-leak-detection kit. The correct number is 2-870005207.

② The "Correction" (page 2 of the June 1998 issue) for the figures of the "New Ring-Gauge Isolator for Blackwater" article (January 1998 issue, page 10), was mistaken. See inside (page 9) for a corrected reprint of the article.

Navy Fleet Reaches Halfway Point in CFC Conversion

THE U.S. NAVY FLEET has one of the largest installed bases of CFC-12 in its AC&R systems. To ensure protection of the environment and prevent a negative impact on the Navy's National Defense mission, the NSWCCD-SSES CFC Elimination Team has developed the SHIPALT AIT Installation Program and provided technical expertise required to convert the Navy's CFC-12 systems to ozone-friendly HFC-134a.

NSWCCD-SSES's HFC/CFC Conversion Installation Representatives and In-Service Engineering Agent (ISEA) Technical Representatives witnessed the final stages of the installation of modified refrigeration equipment aboard the USS *Emory S. Land* (AS-39) in Norfolk, VA; this marked the halfway point in the Navy's Shipboard CFC-12 Elimination Program.

The *Emory S. Land*'s "A" Division Chief Petty Officer, surface-warfare-qualified Chief Machinist's Mate ***MMC (SW) Thornton***, stated that working with the CFC Elimination Team had gone very smoothly and credits the advance planning by everyone involved on the team. He particularly praised the AIT support for its concern for the crew and immediate response to all problems and requests. As directed by NSWCCD-SSES, ***Mr. Jim Harding*** of the Fleet Technical Support Center, Atlantic (FTSCLANT) and the AIT liaison with the ship and NSWCCD-SSES, went through the whole package with the Chief and stayed in constant communication with Ship's force and NSWCCD-SSES. Having worked with NSWCCD-SSES engineers and shipyards here and overseas on AIT installations, he said, "We have learned from past years and installations, and have developed an excellent relationship now, which makes each new installation easier."

Machinist's Mate First Class ***MM1 Tony Head***, the "A" Division Leading Petty Officer, also told the NSWCCD-SSES personnel that the AITs not only were professional in installing the modified system, but took the time to train the crew: "The AIT has really been helpful to the crew in trouble-shooting other areas of the system."

The CFC Team's intent is to leave the ship with a better system than they had when the changeover work was started.

▲***Contractor ISA representative*** **Mr. Dale Wright** ***(left) installs an electrical box aboard the USS*** **Emory S. Land** ***with NSWCCD-SSES HFC/CFC Conversion Team members*** **Mr. Vince DiFilippo** ***and*** **Mr. Vince Cancila.**

▲**MM1 Tony Head** ***(left) and*** **Mr. Steve Doyle** ***work on the air-conditioning unit aboard the USS*** **Emory S. Land.** ***FTSCLANT representative*** **Mr. Jim Harding** ***and NSWCCD-SSES HFC/CFC Conversion Team member*** **Mr. Matt Frank** ***look on.***

Comparing the CFC-12 elimination installation with other AIT installations, ***Mr. Robert Bowers***, the NSWCCD-SSES Fleet Liaison Representative in Norfolk, stated, "This is the best installation I have ever worked. The procedures cover every step of the installation; and the relationship between the SSES 9213 and 9513, FTSC, AIT, and Ship's force was excellent."

While in Norfolk, CFC-12 Elimination Team members talked to the AIT and crew converting the refrigeration system aboard the USS *Shreveport* (LPD-12). ISA, the AIT contractor for this conversion, praised the advanced planning and cooperation among all parties involved.

The NSWCCD-SSES CFC Elimination Team has made a major impact on the

Fleetwide AC&R conversion programs. It has effectively transferred this technology to the U.S. Navy, foreign fleets, and the private sector. From the Gulf of Mexico to the Pacific Northwest and the South China Sea, the NSWCCD-SSES CFC Team's expertise is reaching around the globe and making the navies of the world ozone friendly.

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Did You Know...?

- **Thanks to the CFC/Halon Elimination Team, the LPD-17, the Navy's first ozone-friendly ship, will use HFC-227ea (heptafluoropropane) and fine-water mist for fire protection. Fine-water mist, in fact, has opened the door to high-performance, "totally green" fire-fighting technologies.**
- **The Navy Oxygen Cleaner has already replaced 1 million pounds of annual NAVSEA CFC-113 use and is gaining wide acceptance by private industry around the world.**
- **The EPA has piled prestigious Stratospheric Ozone Protection awards on the Navy in recognition of "exceptional contributions to global environmental protection." In fact, since 1994 the NAVSEA corporation and its agents have received an unprecedented 20 awards.**

First Shipboard CFC-114 Plants Converted

THE FIRST SHIPBOARD CONVERSIONS OF CFC-114 AC plants to ozone-friendly HFC-236fa have been completed in Norfolk, VA, aboard the USS *Normandy* (CG-60). Two of the *Normandy*'s four 200-ton plants were converted for an at-sea demonstration. Since December 1998, both plants have had more than 500 successful operating hours; the ship's crew and the port engineer have expressed complete satisfaction with the performance.

Besides being more environmentally friendly, these conversion kits offer several advantages to the Fleet. The converted plants will use a new compressor design with a variable-geometry diffuser, in conjunction with a new universal microprocessor control system to replace the existing pneumatic/electromechanical controls.

▲ ***The USS* Normandy *crew at NSWCCD in Annapolis, MD, trains for the new HFC-236fa plant***

Combined, the two new technologies will:

- **Increase** the plants' energy efficiency, resulting in reduced fuel consumption, greenhouse gas emissions, and operating costs;
- **Reduce** acoustic signature of the plants at partial-load conditions;
- **Expand** the plants' operational envelope by allowing efficient operation in areas of the world with high seawater temperatures (more than 95 degrees F), such as in the Persian Gulf; and

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Navy Wins Climate and Ozone Awards

NAVY ORGANIZATIONS AND INDIVIDUALS received five awards in October 1998, when ***Mr. Todd Stern***, Assistant to President Clinton for Special Projects, and EPA Deputy Administrator ***Mr. Peter Robertson*** presented the 1998 Global Climate Protection and Stratospheric Ozone Protection Awards to 51 organizations and individuals from around the world. Below are the 1998 Navy award winners.

Stratospheric Ozone Protection

Marine Corps, Direct Reporting Program Manager, Advanced Amphibious Assault (DRPM AAA) made environmental protection, including an ODS-free Advanced Amphibious Assault Vehicle (AAAV) design, an integral consideration in all of its acquisition processes. By planning early in the development cycle and designing the AAAV correctly the first time, DRPM AAA avoided the use of Class I or II ODSs in the design. This prevented both costly retrofitting and damage to the environment. DRPM AAA also prohibits using any EPA-17 chemicals.

Navy LPD-17 Amphibious Transport Dock Ship Team designed the most advanced amphibious ship ever built to ensure that ODSs were eliminated. The LPD-17 uses a high-efficiency HFC-134a centrifugal compressor air-conditioning (AC) plant. Also, a Navy-optimized fine-water mist system replaces Halon 1301 in main and auxiliary machinery engineering spaces. Non-ozone-depleting HFC-227ea (heptafluoropropane) replaces Halon 1301 in flammable liquid storerooms and other ancillary spaces. The LPD-17 will be the first Navy ship designed and built with no Class-I ODSs.

Navy New-Attack Submarine Program Office is acquiring submarines that not only meet strict safety and performance requirements, but also minimize impact on the environment. An environmental management team technically advises designers and builders to ensure Class-I ODSs are eliminated from all phases of the submarine life cycle. Class-I ODS refrigerants in chilled-water AC, refrigeration, and galley equipment systems were eliminated, along with ODSs in maintenance and construction consumables, including adhesives, paints, and cleaning products. The program received the 1996 and 1997 Secretary of Defense Environmental Security Award for Pollution Prevention by Weapons System Acquisition Team.

NAVSEA's Mr. Gregory S. Toms, P.E., developed advanced, high-efficiency, non-CFC centrifugal compressors designed to operate with ozone-friendly HFC-134a. As a result of his work, an advanced 125-ton twin-screw compressor AC plant and a 200-ton centrifugal compressor were developed; the latter is being installed aboard various ship classes. Mr. Toms was also involved in selecting HFC-236fa as a CFC-114 substitute. AC plants using HFC-236fa were converted successfully in the laboratory and the first shipboard conversion is under way now. The Navy will convert the rest of the surface Fleet's CFC-114 AC plants over the next several years. Mr. Toms also helped the Navy protect the environment by preparing and defending budgets, overseeing conversion programs, and continuing the push to deliver more ozone-friendly products to the Navy and DOD.

Climate Protection

Carderock Division, Naval Surface Warfare Center, DD-963/CG-47 Stern Flap R&D Team designed a stern flap—an extension of the

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MILSPECs Update

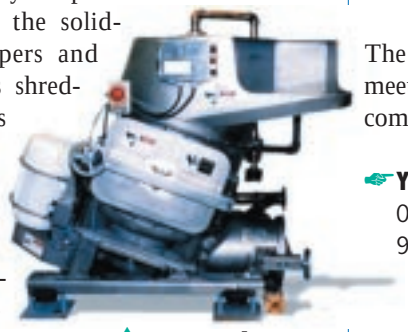
- **MIL-C-44044 (Cabinet, storage, milk shake, mechanically refrigerated)** has been cancelled without replacement by Notice 1, 5 May 1998.
- **MIL-R-16417 (Repair kits, CO_2, inflatable life preservers), Revision J,** has been cancelled by Notice 1, 30 June 1997, and is not superseded by another document.

Ships Receive First Pulpers and Shredders

Navy Accomplishes Another Environmental Milestone

CONGRATULATIONS, NAVY! THE DEDICATION and hard work of NAVSEA 03L AND NSWCCD have kept the pulper/shredder program right on schedule.

The Navy accepted the first contract deliveries of the solid-waste pulpers and metal/glass shredders, as scheduled, on 25 June 1998. These first-unit deliveries culminate an aggressive effort by both contractors (Frequency Engineering Laboratories Corporation and United Technologies, Inc.) and the NAVSEA/NSWC team to begin deliveries 7 months after contract award, under budget, and while meeting all quality requirements. The production units were built to Navy drawings, using commercial specifications, and are completely supported logistically.



▲ *Large pulper*

Five ships have had pulper and shredder installations completed to date. The ships and their installation dates are shown below:

- **USS *Decatur* (DDG-73):** June 1998
- **USS *McFaul* (DDG-74):** December 1998
- **USS *Coronado* (AGF-11):** December 1998
- **USS *Kauffman* (FFG-59):** January 1999
- **USS *Denver* (LPD-9):** January 1999

The pulper/shredder program is on track to meet the Congressionally mandated Fleet compliance date of December 2000.

Your POC: Ms. Ye-Ling Wang, NAVSEA 03L11, 703/602–8144 x201; DSN 332–9025; fax 602–8010; wang_yeling@hq.navsea.navy.mil

▲ **LCDR Steve Markle *(NAVSEA 03L1B) holds a burlap bag that is used for shredded waste metal and glass on board the USS* John C. Stennis (CVN-74)**

Climate Awards

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hull bottom surface aft of the transom—that reduces power required to propel a ship, thereby reducing fuel consumption, which results directly in fewer pollutants released into the atmosphere. Ship trials indicate a substantial decrease in power requirement by 6 to 14 percent, resulting in annual savings of 4,400 barrels of fuel, applicable to each ship of the Spruance-Class Destroyers (31 ships) and Ticonderoga-Class Cruisers (27 ships). Annual fuel savings may amount to 290,000 barrels, while life-cycle fuel savings could reach 7 million barrels.

Coordinating Environmental Protection Afloat

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that the following elements are key to a successful shipboard environmental protection program:

- Instill crew ownership discipline;
- Include plan for source segregation (bins, colors) in your solid-waste management program;
- Have complete stock of necessary supplies and personal-protective equipment (PPE);
- Use cross-rate personnel with heavy, varied training;
- Conduct sanitation walk-throughs daily; and
- Make sure operators and maintainers schedule preventive maintenance and inform design engineers of any problems

▶ Keep reading future issues of ***SEP News*** for more information on AEPCs!

Using SEP News: The SEIC Newsletter Is Your Forum

At the Navy Shipboard Environmental Information Clearinghouse (SEIC), our goal is for readers to use this newsletter as an open, informal forum for dialogue among the ship environmental community about *your* concerns and issues. Please send your questions along and *SEP News* will publish the answer. *SEP News* is for *you*, so please tell us what's on your mind!

PWP Status as of December 31, 1998:
100% of the Fleet done!
All PWPs delivered; 185 ships (27 classes) installed; 4 remaining ships in availability

The Navy has outfitted the entire Fleet with PWPs and has met the Congressional milestone

R&D UPDATE

Successful Fleet Solid Waste Conferences

GOOD NEWS FROM BOTH OF THIS YEAR'S solid-waste conferences in San Diego, CA, and Norfolk, VA: ships and headquarters staff exchanged information and lessons learned on solid-waste equipment installation, design, operation, maintenance, and ship organization. Most problems discussed were training and repairs.

Mr. Joel Krinsky (NAVSEA 03L1) chaired both the San Diego (PACFLT) and the Norfolk (LANTFLT) conferences. Dozens of commands were represented at both meetings and presented on topics such as solid waste regulations and Congressional requirements; equipment descriptions, development, testing, logistics, and production status; installation schedules and status; and Fleet integration efforts.

Discussions at the meetings resulted in more than 20 NAVSEA action items, covering a wide range of topics, from ensuring access to solid-waste equipment repair parts made available via the Consolidated Residual Asset Management Screening Information (CRAMSI) system for SNAP-I-equipped ships to adding a medical waste section for the SEIC Web page. Other action items: Investigate developing standard operating procedures for solid waste equipment; promulgate procedures for managing plastics for ships that receive no solid-waste processing equipment; investigate and publish U.S. shore-based plastic disk disposal methods; and post the pulper/shredder-installation-and-check-out checklist on the SEIC Web site.

A conference lessons-learned message (230349Z NOV 98) covers items such as the following:

- Guidelines for ownership of equipment;
- A suggested ship's organization and instruction for solid-waste equipment management and operation;
- Plastic bags vice wet-strength paper bags;
- Available training material, including the interactive courseware and supplemental training by NSWCCD-SSES;
- Shipboard segregation of waste in port; and
- Availability of Job Qualification Records for this equipment.

Feedback was extremely useful to NAVSEA in enhancing the deployment of the PWPs, pulpers, and shredders. Continuing to improve communication between headquarters and operational units, some attendees toured the solid-waste equipment on board the USS *John C. Stennis* and the USS *Decatur* (photos, pages 1 and 5).

▶ For a complete agenda, a list of conference action items, or a copy of the lessons-learned message, see the SEIC Web site or contact the Clearinghouse.

What's new?

Fleetwide Survey Responses Are In!

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very eager for the equipment, administrative, and technical solutions to ensure success.

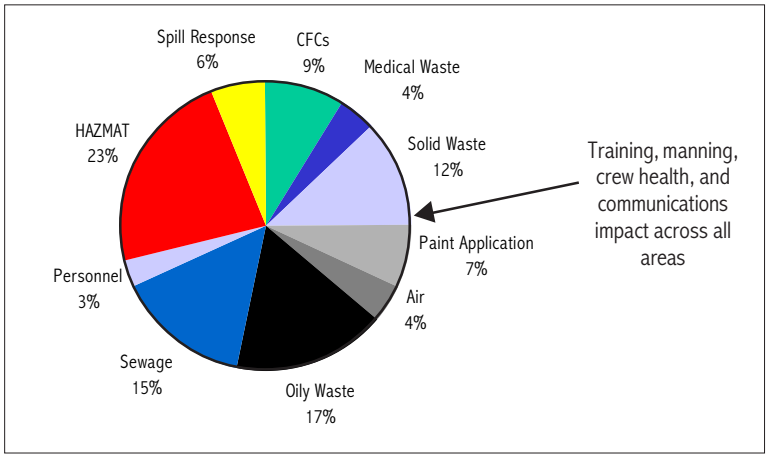
The questionnaire was designed to solicit feedback on environmental issues in the following areas:

1. Air;
2. Non-Oily Liquid Discharges;
3. Oil and Oily Waste;
4. Hazardous Materials;
5. Oil and Hazardous Substance Spills;
6. Solid Waste;
7. Medical Waste; and
8. Other Environmental Concerns

This effort was extremely important in verifying that NAVSEA's programmatic efforts are supporting Fleet operations and afloat quality-of-life issues. The FWEQ positively confirmed the direction and approach that NAVSEA has taken on most issues, and provided lessons learned on areas that require more attention for both today's ships and future ship designs (see chart below). The findings will help Program Life Cycle Managers in their ongoing efforts to improve environmental awareness, training, equipment, and instructions.

The team plans to repeat this survey this summer in San Diego, CA; Pearl Harbor, HI; Puget Sound area, WA; Ingleside, TX; Pescagula, MS; Mayport, FL; and Norfolk, VA.

▶ You can find both the FWEQ and the Fleet Wide Environmental Survey, conducted at the direction of the Ship Design Standards Process Action Team, at the Navy SEIC Web site, ***www.navyseic.com***



▲ *Fleet concerns by category*

TRAINING UPDATE

Solid Waste Exam Coming Soon to Your Ship

IN A RECENT PRESENTATION TO the President, Board of Inspection and Survey (INSURV), ***RADM John T. Lyons III***, NAVSEA environmental protection program managers discussed the importance of shipboard training. INSURV, as the afloat environmental protection compliance inspectors, will begin testing crew knowledge of environmental protection requirements.

INSURV inspectors, assisted by NAVSEA, have developed 25-question, multiple-choice examinations on shipboard solid waste that will be administered during INSURV inspections of ships with installed PWPs.

▲**RADM Lyons *inspects a well-used compress-melt unit on board an aircraft carrier.***

INSURV annually reports afloat environmental compliance findings to the CNO. Training and knowledge level play major roles in environmental compliance. The written examinations will help quantify knowledge levels and evaluate effectiveness of required onboard training and available computer interactive courseware.

The exam will test ship's force on general solid-waste regulations, proper disposal of plastics waste, and Navy environmental policies. Operators and maintainers of solid-waste equipment will be tested specifically on those functions. Officers will be tested on *OPNAVINST 5090.1B* regulations. A percentage of assigned enlisted personnel will have a separate exam geared toward general information they should have received during their initial and annual environmental awareness training.

More than 50 ships with solid-waste equipment can expect INSURV and these examinations within the next 2 years.

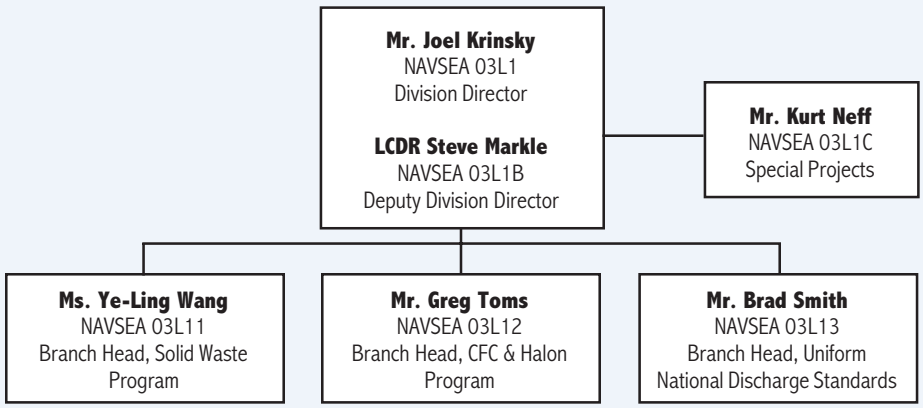
Your INSURV POC: CDR Charlene Brassington, Code 35, 757/464–7539 x3028, brassington@insurv.nosc.mil

New Whiz Wheel Available Now!

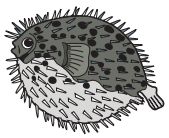
Order a free whiz wheel *(OPNAV P-45-111-3-98, U.S. Navy Pollution Discharge Restrictions)*—your guide to managing all ship waste streams—by using NSN 0420-LP-010-1720. If you have trouble receiving them from the supply system or need them immediately, contact the Ships Environmental Support Office, 301/227–5245, DSN 287–5245, wenzelml@nswc.navy.mil

NAVSEA 03L1 Reorganizes

AS PART OF THE NAVAL SEA SYSTEMS Command's strategic goal to create a more forward-looking, responsive, and efficient organization, its Environmental Programs Division (NAVSEA 03L1) recently reorganized. The new headquarters organization went into effect on 1 October 1998. Below is a revised organization chart for NAVSEA 03L1. See the POC list on page **14** for complete information, including e-mail addresses and phone numbers.



OILY WASTE UPDATE



Good News from the Navy Oil Conference

TO PROVIDE AN OPEN FORUM FOR DISCUSSing shipboard oil pollution abatement equipment, NAVSEA 03L hosted the third annual Oil Pollution Abatement (OPA) Conference in July 1998 in San Diego, CA. Participants included Fleet representatives, N45, Program Managers, NSWC, INSURV, and FTSC representatives. Attendees exchanged information and lessons learned on the following:

- OPA equipment installation, operation, and maintenance;
- Regional discharge policies;
- Developments in equipment modifications and future technologies;
- The new certification program; and
- Training initiatives.

Regional Discharge Update

Regional discharge discussions focused on oily waste handling policies in each port, ship-to-shore interface, shore facilities' ability to handle large volumes of oily waste, and the difficulty in processing aqueous film-forming foam (AFFF) experienced by both ship and shore facilities.

NOTE: Never use AFFF to clean your bilges! Your OWS cannot effectively process it, and shore facilities don't want it either!

Training Is the Key to Effective Operation of Your OPA Equipment

Periodically, NAVSEA and the Fleet conduct a certification process for OPA equipment. This not only helps identify and correct system deficiencies for the Fleet, it also provides supplemental crew hands-on training. The program is gaining momentum, and OPA equipment is getting more attention. NAVSEA and NSWC are reviewing the deficiency checklist to ensure that it reflects safe and effective equipment operation.

The overall program goal: to ***train as many people as possible***! Change 5 to the Fleet Training Center course curriculum is now being implemented. Ships also will receive supplementary training videos during the certification process.

Feedback Helps Navy Meet Goals

Feedback was extremely useful to NAVSEA. The exchange of information helped NAVSEA assess many issues and gauge how well the program meets shipboard needs. NAVSEA 03L plans to host more annual conferences to ensure that the OPA program continues to support the Fleet in meeting its environmental responsibilities.

Your POC: Mr. Brad Smith, NAVSEA 03L13, 703/602–8144 x202; DSN 332–9025; fax 602–8010; smith_brad@hq.navsea.navy.mil

Cruise Lines Fined $10+ Million for Oily Waste Violations

LAST YEAR, ROYAL CARIBBEAN CRUISES Ltd. (RCCL) agreed to pay $9 million in fines for dumping oil-contaminated bilgewater and attempting to conceal it from the U.S. Coast Guard. Following in the wake of this case, Holland America Line also pled guilty to felony violations of APPS in June 1998. This cruise line will pay a $1 million fine, pay another $1 million in restitution, and be put on probation for 5 years.

Between 1990 and 1994, RCCL employees falsified oil-record log books and bypassed oil-water separators (OWSs). RCCL also avoided expenses and commitment of other resources associated with regular OWS maintenance, replacement of membranes and other spare parts, and off-load of oil-contaminated bilge waste in port. The Holland America Line investigation began, following a tip from a vessel crew member who refused an order to pump unprocessed oily bilgewater overboard.

These criminal prosecutions point out the need for shipboard personnel to properly maintain oil-pollution abatement (OPA) equipment and to be thoroughly familiar with oily waste discharge restrictions. Navy OPA requirements are detailed in section 19–5 of the *Navy Environmental and Natural Resources Program Manual* (*OPNAVINST 5090.1B* Change 1 of 2 February 1998). Readers should pay special attention to section 19–5.3.5: what to do when oily waste processing equipment is inoperative because of malfunction. If OPA equipment casualties threaten or result in discharges, Sailors should report such casualties via CASREP. During a casualty, if a Commanding Officer determines that retaining oily bilgewater on board poses a safety hazard, he or she may direct its discharge directly to sea. If this occurs, record all discharges (nature, quantity, and geographic location) in the engineering log.

For more OPA information, including the equipment-certification program, please see the article above or click on the "Oil" button at the Navy SEIC Web site ***(www.navyseic.com)*** to view the following:

- UNDS Phase I Proposed Rule;
- Shipboard OPA Systems Guidebook;
- OPA Equipment Advisory;
- Department of Justice press releases on cruise ship fines; and
- Other OPA information

UNDS UPDATE

UNDS Phase I Proposed Rule Issued

EPA AND DOD ISSUED THE PROPOSED rule for Phase I of Uniform National Discharge Standards (UNDS) development on 25 August 1998. The proposed rule describes the types of discharges generated incidental to the normal operation of Armed Forces vessels and identifies which of these discharges the Armed Forces will be required to control, and which ones they will not.

Discharges Requiring Control

- Aqueous Film-Forming Foam
- Surface Vessel Bilgewater/Oil-Water Separator
- Seawater Cooling Overboard Discharge
- Chain-Locker Effluent
- Underwater Ship Husbandry
- Submarine Bilgewater
- Hull-Coating Leachate
- Gas Turbine Water Wash
- Controllable Pitch Propeller Hydraulic Fluid
- Small-Boat Engine Wet Exhaust
- Seawater Piping Biofouling Prevention
- Motor Gasoline Compensating Discharge
- Catapult Water Brake Tank & Post-Launch Retraction Exhaust
- Distillation & Reverse Osmosis Brine
- Non-Oily Machinery Wastewater
- Compensated Fuel Ballast
- Dirty Ballast
- Clean Ballast
- Graywater
- Deck Runoff
- Photo Lab Drains
- Firemain Systems
- Welldeck Discharge
- Sonar Dome
- Elevator Pit Effluent

Discharges Not Requiring Control

- Cathodic Protection
- Catapult Wet Accumulator Discharge
- Portable Damage Control Drain Pump Wet Exhaust
- Portable Damage Control Drain Pump Discharge
- Submarine Emergency Diesel Engine Wet Exhaust
- Submarine Outboard Equipment Grease and External Hydraulics

continued on page 10

MACHALT OF THE MOMENT

New Ring-Gauge Isolator for Blackwater

[Corrected version of story printed on page 2 of the June 1998 issue of SEP News]

TO IMPROVE THE RELIABILITY OF SANITARY waste system sewage transfer-pump suction and discharge gauges, NSWCCD-SSES Codes 631 and 9153 have developed Machinery Alteration (MACHALT) 470, the ring-gauge isolator.

The existing diaphragm-type gauge isolator (***Figure 1***), which provides isolation between the process fluid (sewage) and the sensing fluid (typically glycerol) is prone to failure for two reasons: (1) the process piping clogs (from the buildup of sewage solids), making the gauges unable to properly sense process-fluid pressure; and (2) the Teflon®-coated diaphragm ruptures, leading to a loss of sensing fluid, making the gauges unable to sense process-fluid pressure.

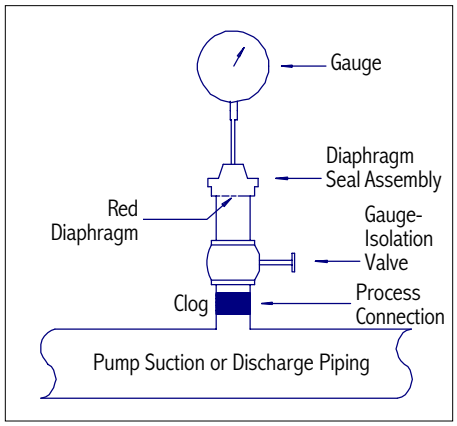


Figure 1. ***Before: Old diaphragm-type gauge assembly***

Ship's force is unable to repair a failed diaphragm-type gauge assembly. In sewage systems that have no gauge-isolation cutout valves, ship's force must secure the entire sewage system before removing or replacing a diaphragm-type gauge assembly.

These problems can be avoided with gauge assemblies equipped with ring-gauge isolators (***Figure 2***), which MACHALT 470 installs in sewage transfer pump suction and discharge piping. The ring-gauge isolator assembly senses pressure through an in-line, liquid-filled sensing ring. This ring isolates the gauge from direct contact with sewage, using a 50/50 mixture of water and ethylene glycol as the sensing fluid. Changes in pressure caused by sewage-transfer pump operation or static head pressure in the sewage-transfer piping cause the sensing ring to deflect and displace the sensing fluid in the sensing ring. This, in turn, is sensed by the gauge.

The in-line design of the ring-gauge isolator and the fact that the sensing ring's inner wall (sewage-contact side) is constantly "cleaned" by the flow of sewage during transfer-pump operation and prevents clogs. Repairing a gauge-isolator assembly is within ship's force capability and requires no special tools.

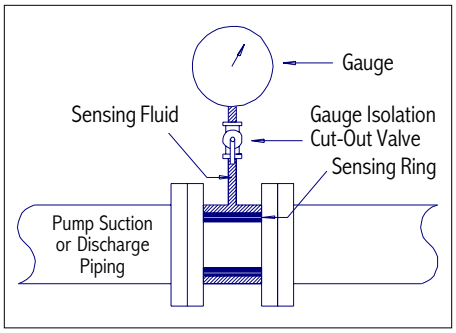


Figure 2. ***After: New ring-gauge isolator***

NSWCCD Annapolis has tested the land-based concept; initial shipboard testing was performed on the USS *Simon Lake* (AS-33), while prototype MACHALT 470 was installed on the USS *Trenton* (LPD-14). Additional gauge-isolator assemblies were installed as part of the sewage-system eddy pump Ship Alteration installations performed on CV- and CVN-Class ships.

Ring-gauge isolator assemblies also are used for DD-963/DDG-993-Class Alteration Equivalent Repair (AER) No. 11/91 to improve the reliability of the sewage system transfer/dump pump-protection circuit on these ship classes.

PROGRAM UPDATE

NAVSEA and NSWCCD Jump-Start Pollution Prevention Afloat on 16 Ships!

NAVSEA AND NSWCCD WILL KICK off the Pollution Prevention Afloat (P²A) Equipment Fleet Transition Program this fiscal year by installing partial suites of P² equipment aboard 16 ships.

Transitioning P² in Two Parts

While NAVSEA wants to transition P² equipment to the Fleet as quickly and cheaply as possible, it also wants to ensure that the equipment meets Fleet requirements and is completely supported through proper installation drawings/instructions, training, and other integrated logistics support. By using commercial off-the-shelf (COTS) or modified COTS equipment, NAVSEA is ensuring that P² solutions are transitioned at lower cost. The two-part transition program ensures the equipment reaches the Fleet quickly.

Under this program, a "Jump-Start" implementation phase is under way this fiscal year that will install a partial suite of P² equipment (11 of the 24 total pieces planned (listed below)) aboard 16 ships representing 10 ship classes (CG-47, DD-963, DDG-51, FFG-7, CVN-68, AOE-6, LHA-1, LHD-1, LPD-4, and LSD-49):

1) Large Aqueous Parts Washer
2) Top-Loading Aqueous Parts Washer
3) Cable Cleaner/Lubricator
4) Mercury Ion Exchange Cartridge System
5) Maintenance-Free Batteries
6) Paint Dispensers
7) High-Volume, Low-Pressure Paint Gun System
8) Paint Brush Holders
9) Paint Gun Cleaning Station
10) Hand Pump/Spray Bottle Set
11) In-Drum Compactor

Jump-Start will serve as a springboard to the full Fleet implementation from FY 2000 to FY 2005. During the full Fleet transition, AITs will install complete suites of equipment via SHIPALT packages. Suites for new-construction ships will be implemented via Engineering Change Proposals (ECPs).

- P²A began in 1995 to provide real-time solutions to shipboard HM problems using innovative technology and approaches. To learn more, visit the P²A Page at the SEIC Web Site: ***www.navyseic.com***.

Your P²A POC: Ms. Mary Jo Bieberich, NSWCCD Code 632, 301/227–4978, DSN 287, bieberic@oasys.dt.navy.mil

CFC-114 Conversions

continued from page 4

- **Decrease** logistic support and training requirements by using the new universal microprocessor control that will be common to all ships with HFC-236fa and new-construction ships with HFC-134a, simplify trouble-shooting procedures, increase plant reliability, and require less labor to operate and maintain.

In the second quarter of 1999, the full Fleetwide conversion program for all surface ships began with the USS *Bunker Hill* (CG-52), the first of three CG-47-Class ships to

***An HFC-236fa plant already converted on board the USS* Normandy**

be converted in FY 1999. Current FY 2000 plans are to convert a DD-963-Class ship, a DDG-51-Class ship, and the AGF-11.

Your CFC-114 Conversion Program POC: Mr. Greg Toms, NAVSEA 03L12, 703/602–9025 x501, DSN 332, toms_greg@hq.navsea.navy.mil

UNDS Phase One, Proposed Rule

continued from page 9

- Mine Countermeasures Equipment Lubrication
- Stern Tube Seals and Underwater Bearing Lubrication
- Steam Condensate
- Rudder Bearing Lubrication
- Refrigeration/AC Condensate
- Boiler Blowdown
- Freshwater Layup
- Submarine Acoustic Countermeasures Launcher Discharge

- **Links to the proposed rule and to the UNDS home page are on the Navy SEIC Web site, www.navyseic.com, under "What's Hot or New?"**

During the 2-year ***Phase II*** of UNDS, the Navy and the EPA will establish performance standards for ***marine pollution control devices (MPCDs)***. Phase II will focus on promulgating MPCD performance standards for those vessel discharges identified during Phase I as requiring an MPCD.

- For more background on UNDS, see page 8 of the Summer 1997 issue of ***Shipboard Environmental Protection News***. Please contact the Navy SEIC for copies of the newsletter, or view it online at the SEIC Web site, ***www.navyseic.com***

SUBMARINE CORNER

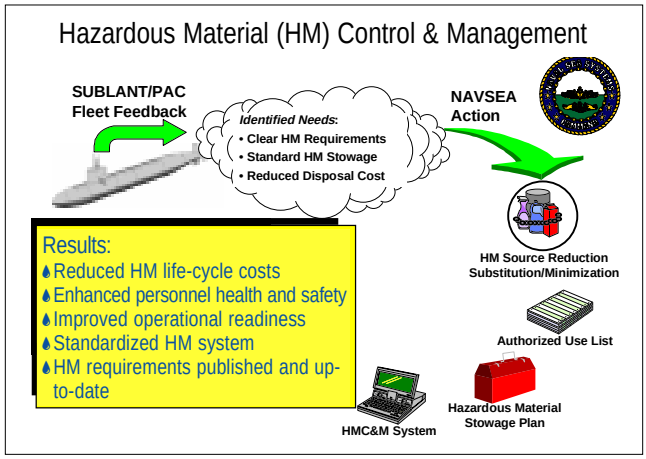
Submarine HM Control, Management: NAVSEA Initiatives

A VIABLE HAZARDOUS MATERIAL CONtrol and Management (HMC&M) program is an important component of any Navy command for workplace safety, environmental protection, and cost reduction. In the self-contained atmosphere and cramped work environment found on submarines, HMC&M can be critical. That is why NAVSEA and NSWCCD are quickly responding to Submarine Force requests for assistance in managing and controlling hazardous materials (HM) by developing a new set of user-friendly tools and initiatives in four main areas:

Submarine Authorized-Use List. While the ***Submarine Material Control List (SMCL)*** identifies hazardous materials that are atmosphere contaminants, NAVSEA has compiled a comprehensive master HM list to provide guidance to Submariners for requisition of ***all*** HM (similar to the Shipboard Hazardous Materials List (SHML) used by surface ships). This authorized-use list will be streamlined and tailored to help decrease the number of materials found on submarines and make inventory and management much easier. Distribution will begin in late FY 1999.

Submarine HM Control & Management System. NAVSEA is developing a system that will automate all submarine HM control-and-management functions in one CD-ROM disc. This "one-stop-shopping" approach will allow screening of HM against the authorized-use list; quickly identify the types, quantities, and stowage locations of all HM onboard; and generate a variety of standard reports, forms, labels, and checklists for needs such as material safety data sheets, inventory reporting, and off-load documentation. Relevant guidance on safety precautions and personnel-protection devices will be provided as a ready online resource. The prototype of the Submarine Inventory Control Management System will be ready for testing and evaluation on board a submarine by early FY 2000.

Centralized Submarine HM Control/Stowage Guidance. HM is stowed in a wide variety of locations throughout most submarines and usually controlled by individual workcenters, causing potential safety hazards and making accurate inventory difficult. NAVSEA is now evaluating the methods of control and stowage taking place on SSN and SSBN submarines. The findings and lessons learned will be incorporated into guidance for the Submarine Force. This guidance should be completed and distributed by late FY 1999.



Source Reduction through Material Substitution, Minimization. NAVSEA laboratories are now analyzing submarine maintenance and repair processes to identify less hazardous substitutes for the HM currently on the submarine authorized-use list. Results will include safer, less costly, and more environmentally friendly material used by submarines. These efforts will continue through 1999.

NAVSEA/NSWCCD team efforts will save money, improve operational readiness, enhance personnel health and safety, and make life easier for our Sailors. This initiative, along with the other parts of the Navy Submarine Environmental Program, will be a significant step toward achieving the Navy's goal of operating environmentally sound ships in the 21st century.

Hazardous Material Use Reduced through Better Maintenance Plans

A process for continually evaluating submarine maintenance has also proven beneficial for reducing HM use aboard submarines. ***The Maintenance Effectiveness Review (MER)*** is designed to provide a vehicle for continuous integrated review (biannually) of the submarine planned maintenance requirements by the users (Fleet) and the technical community. The MER process promotes efficiency by eliminating redundancies, unnecessary requirements, adjusting periodicities, and adding necessary maintenance when required at the Operational, Intermediate, and Depot (O/I/D) levels. Submarine MERs include input from an array of technical and management offices.

Fourteen MERs have been held, which completes the initial review of all Hull, Mechanical, & Electrical and Combat Weapon Systems. They constitute a total estimate of 165,300 O-Level man-hours reduced annually—an average of 2,147 man-hour reduction per submarine per year!

More than 700 maintenance requirement cards (MRCs) were canceled; of that, 216 had HM listed in the Tools and Materials block. Environmentally, this contributed to the Navy's pollution-prevention efforts by reducing the amount of HM the Sailor needs. Inherent safety and health benefits are realized by eliminating maintenance requiring HM.

The process is planned, scheduled, and budgeted to repeat semiannually vice quarterly; the redo effort will include SSN-688, SSBN-726, and SSN-21.

Your Submarine Environmental POCs: Mr. Dave Cartwright, NAVSEA 92TE, 703/602–8096 x475, cartwright_dave@hq.navsea.navy.mil, or Mr. Stephan Wassel, NAVSEA 92TE1, 703/602–8096 x474, wassel_stephan@hq.navsea.navy.mil

Your NSWCCD POC for submarine HMC&M: Mr. Kiet Ung, 301/227–5235, ung@ oasys.dt.navy.mil

Individuals Make Pollution-Prevention Success Stories Happen on the SPRUCE Barge!

Sailors on the ***Scheduled Preservation Upkeep Coordinated Effort (SPRUCE) Barge*** (YFNX-42) help preserve and continually "spruce up" Navy submarines' internal spaces: during a 21-day process, submarines receive paint, equipment, technology, and all support needed to accomplish the SPRUCE. And now it is done in an environmentally sound and less costly way, thanks to one Petty Officer and his team.

On the SPRUCE barge,* MM1 Richard Abrahamsen *on deck in Norfolk, VA, and down below, with an environmentally sound aqueous parts washer

During a December 1996 SPRUCE at Naval Base Norfolk, VA, ***MM1 Richard T. Abrahamsen*** noticed that paint chips and grease ended up in the harbor. "We were pretty bad off" environmentally, MM1 Abrahamsen told ***SEP News*** in an August 1998 interview, so he began pointing out "what we could do better to keep us out of trouble." He took his ideas to the SUBLANT environmental office, where ***Mr. Wayne Gilda*** hooked him up with ***Mr. Drew Jackson*** and ***Mr. Steve Verosto*** of the P²A program at NSWCCD. With their help, new P² equipment was recommended, bought, and installed, and, according to Abrahamsen, "everything has been working great ever since… Boats love us because [the SPRUCE] is so simple now. The abrasive we use is recyclable, and we collect 100% of the HAZMAT that we chip off." The P² equipment also has cut *in half* the cost of a SPRUCE (from $20,000 to $10,000).

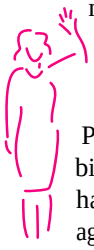
Individuals really can make a difference!

Environmentally Sound Ships of the 21st Century (ESS-21) Web Sites

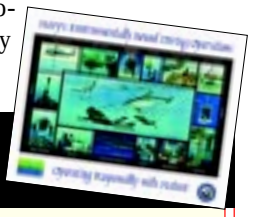
- **UNDS:** 206.5.146.100/n45/doc/unds/unds.html
- **Environmentally Sound Ships (part of the UNDS site):** 206.5.146.100/n45/doc/unds/soundshp/soundshp.html
- **Clean Wake TV (ship-related environmental videos):** www.cleanwaketv.com/
- **N452 Branch (demo):** 206.5.146.100/n45/branch/n452/

Good Luck, Anthony and Tien!

Mr. ***Anthony Nickens***, the Environmental Protection Program Manager for NAVSEA's Ship Research & Development Standards Group (NAVSEA 03R) for the last 3 years, has been promoted. In his new position as Director, Corporate Research and Development Division for NAVSEA 03R, Mr. Nickens is responsible for overseeing MANTECH, SBIR, ATD, and other research and development programs of corporate NAVSEA interest. We congratulate him on this achievement and look forward to the benefits of his strong leadership skills in his new role.



Also, NAVSEA's Environmental Protection Division (NAVSEA 03L) bids farewell to ***Mr. Tien Ngo***, who has left his position as Project Manager for the PWP program to provide management oversight within NAVSEA's 03D/PMS 312 for the Carriers' Auxiliary and Crew Systems Engineering Management Team. At NAVSEA 03L, Tien managed contracts and provided technical support for integrating PWP equipment into Navy ships. He addressed the budgeting, procurement, and logistics issues, and served as life-cycle manager for PWP systems. NAVSEA 03L will miss Tien's services and his contribution toward environmentally sound ships!



Available Now at the Clearinghouse Web Site: www.navyseic.com

Under "What's Hot or New"…

- ***Pollution Prevention in Shipboard Operations*,** a paper by Robin E. Hays and Rita Schuh (Proceedings of the Third Annual Joint Service Pollution Prevention Conference and Exhibition, August 1998)
- **Shipboard Solid Waste Pulper/Shredder Installation Schedule**
- **Navy Divers ESS-21 Poster** (shown above right), is available in two sizes!
- **Fleetwide Environmental Questionnaire** 1997 Report
- **Updated ODS Supply Support Procedures, Navy ODS Advisory 96-01B**
- **ODS Training Videos**, including an abbreviated version of "Navy's Search for ODS Alternatives" that you can view online!
- **Hazardous Materials Afloat Program** 1998 Conference Documentation

Also at the SEIC Web Site…

- **Ship Environmental Protection Process Action Team (SEP PAT) Page:** Click on the "Environmental PAT" button on the left side of the home page.
- **The Training Page** has a link to the Naval Occupational Safety and Health and Environmental Training Center (NAVOSHENVTRACEN) Web site, including the 1999 Course Catalog.

ALPHABET SOUP FOR NON-NAVY TYPES

What do all those acronyms mean, anyway? A quick-reference glossary:

AC&R: Air conditioning and refrigeration
AEL: Allowance Equippage List
AIT: Alteration Installation Team
APPS: Act to Prevent Pollution from Ships
ASNE: American Society of Naval Engineers
ATD: Advanced Technology Demonstration
CASREP: Casualty Report
CAPT: Captain
CFC: Chlorofluorocarbon
CDR: Commander
CNO: Chief of Naval Operations
CONUS: Continental limits, United States
DOD: Department of Defense
DSN: Defense Switched Network
EPA: Environmental Protection Agency
FY: Fiscal year
HCFC: Hydrochlorofluorocarbon
HFC: Hydrofluorocarbon
HM: Hazardous material(s)
LCDR: Lieutenant Commander
LNTFLT: Atlantic Fleet
LT: Lieutenant
LTCOL: Lieutenant Colonel
MACHALT: Machinery Alteration
MANTECH: Manufacturing Technology Program
MILSPEC: Military specification
MSC: Military Sealift Command
MSG: Message
NAS: Naval Air Station
NAVAIR: Naval Air Systems Command
NAVFAC: Naval Facilities Engineering Command
NAVOSH: Naval Occupational Safety and Health
NAVSEA: Naval Sea Systems Command
NAVSUP: Naval Supply Systems Command
NFESC: Naval Facilities Engineering Services Center
NSN: National Stock Number
NSWC: Naval Surface Warfare Center
NSWCCD: Naval Surface Warfare Center, Carderock Division
ODS: Ozone-depleting substance
OPNAVINST: OPNAV Instruction
OPTAR: Operational Target
OUTCONUS: Outside continental United States
PACFLT: Pacific Fleet
P²A: Pollution Prevention Afloat
PMS: Planned Maintenance System
POC: Point of contact
ppm: Parts per million
PWP: Plastics waste processor
RADM: Rear Admiral
R&D: Research and development
SHIPALT: Ship Alteration
SBIR: Small Business Innovation Research
SNAP: Shipboard Nontactical Automated Data Processing (ADP) Program
SSES: Ship Systems Engineering Station
SYSCOM: Systems Command
UNDS: Uniform National Discharge Standards
USS: United States Ship

Spotlight on NSWCCD's Peter McGraw and CNO (N45)'s Lou Maiuri

▲*Mr. Peter McGraw*

▲*Mr. Lou Maiuri*

MR. PETER MCGRAW IS THE ACTING Branch Head of the Solid Waste Management Branch (Code 634) of the Environmental Quality Department of NSWCCD. As such, he is responsible for several of the programs that we regularly report on in ***Shipboard Environmental Protection News***, including the Shipboard Advanced Incinerator Research, Design, Test, and Evaluation (RDT&E) Program, the Submarine Plastic Waste RDT&E Program, and the Solid Waste Processing Equipment Design, Acquisition, and Integration Support Program.

Having started at Carderock in 1980 as a design engineer, Mr. McGraw has since invented and patented several technologies that have been used in treating solid waste. His fields of expertise cover all forms of shipboard solid waste management, including solid waste compaction; plastics processing; metal/glass shredders; and food, paper, and cardboard pulping.

Mr. McGraw holds a Bachelor of Science degree in Mechanical Engineering from the University of New Hampshire and is a licensed professional engineer in the state of Maryland. He is also a member of the American Society of Mechanical Engineers and has won numerous awards from the Navy for his outstanding performance in the engineering field.

MR. LOU MAIURI IS A SENIOR ENVIronmental Engineer and the deputy to the Ship and Air Systems Branch of the Environmental Protection, Safety and Occupational Health Division (CNO (N45)). He is responsible for policy development, operational requirements, program guidance, and resource and assessment sponsorship governing the Navy's Afloat Pollution Control Programs. This includes the Hazardous Material Control Program, the Oil Spill Response Program, and all afloat safety and occupational health programs. Mr. Maiuri also heads up the Navy's rulemaking efforts in the development of Uniform National Discharge Standards (UNDS).

Prior to joining N45 in 1990, Mr. Mauiri was an engineer with the Northern Division of NAVFAC, where he focused on shore environmental compliance. He began his career with the Navy as a general engineer at the Philadelphia Naval Shipyard managing the engineering packages for the Aircraft Carrier Service Life Extension Program. Prior to his Federal service, Mr. Maiuri was a process engineer with The Standard Oil Company of Ohio.

Mr. Maiuri holds a Bachelor of Science degree in Chemical Engineering from The Catholic University of America and a Master of Science degree in Civil and Environmental Engineering from George Washington University (summa cum laude), both in Washington, DC.

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barchukg@notes.hqi.usmc.mil

Defense Logistics Agency: Mr. Ron Sibley, DSCR
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rsibley@dscr.dla.mil

Mark These Dates...

- **Third Friday of Each Month:** ***ASNE Committee on Environmental Engineering's Lunch-Time Seminars;*** 1200–1300 hours (bring your lunch); held at various offices in Arlington, VA; POC: David Breslin, Breslin_David@hq.navsea.navy.mil. For topics, dates, and times, see the Navy SEIC Web site or contact the Clearinghouse.
- **29 March–1 April 1999:** ***National Defense Industrial Association (NDIA)'s 25th Environmental Symposium and Exhibition, "Privatization/Outsourcing of DOD Environmental Operations;"*** Denver, CO; POC: Ms. Erin Curry, 703/247–2578, ecurry@ndia.org
- **29 March 1999:** ***"Navy Day" Environmental Managers Session*** (held in conjunction with the NDIA symposium, above); Denver, CO; POC: Ms. Robin Hamor, 703/604–1421, DSN 664–1421, hamor.robin@hq.navy.mil
- **Spring 1999:** ***Navy/Marine Corps Water Program Managers Meeting***; San Diego, CA; POC: Mrs. Robin Hamor, 703/604–1421, DSN 664-1421, hamor.robin@hq.navy.mil
- **26–29 April 1999:** ***Halon Options Technical Working Conference***; Albuquerque, NM; POC: Leanne Oliver, 505/272–7250, fax 505/272–7203; oliver@nmeri.unm.edu, nmeri.unm.edu/cget/confinfo.htm
- **29 June–1 July 1999:** ***Navy/Marine Corps Clean Air Act Conference,*** New Orleans, LA; POC: Mrs. Robin Hamor, 703/604–1421, DSN 664–1421, hamor.robin@hq.navy.mil
- **27–29 July 1999:** ***Annual Navy Pollution Prevention Conference***, Arlington, VA; POC: Ms. Kathi Jones, NFESC 423, 805/982–4899, DSN 551–4899, joneskf@nfesc.navy.mil

Also check out calendars on the Web at the Navy SEIC site, ***www.navyseic.com/calendar.htm,*** and DENIX, ***www.denix.osd.mil/denix/Public/Calendar/display.cgi***

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We Appreciate Your Help!

Welcome, Carl Adema!

NAVSEA's R&D Group (NAVSEA 03R) welcomes ***Mr. Carl Adema*** to the Innovation and Technology Transfer Division (NAVSEA 03R2) as the Shipboard Environmental Protection R&D Program Manager. Mr. Adema replaces ***Mr. Anthony Nickens***, who, after a structural reorganization at SEA 03, is now Head of the Corporate R&D Division.

Prior to joining NAVSEA, Mr. Adema was the Head of the Liquid Waste Treatment Branch of the Environmental Quality Department at NSWCCD. He also was a Program Manager in the DOD Strategic Environmental R&D Program. He brings over 25 years of environmental R&D experience to his new NAVSEA position as a researcher, a supervisor, and a program manager. Mr. Adema has a Bachelor of Mechanical Engineering degree from General Motors Institute (now Kettering University) and an Master of Business Administration degree from Michigan State University.

Mr. Carl Adema

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Shipboard Environmental Protection News

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What Is the Clearinghouse?

The purpose of the **Navy Shipboard Environmental Information Clearinghouse** is to provide one-stop shopping for the Fleet and inform the Navy community on all shipboard environmental issues: policy, people, R&D, ozone-depleting substances, solid waste, liquid waste, hazardous materials, Uniform National Discharge Standards, and Pollution Prevention Afloat (P^2A) success stories. Our extensive resources include *but are not limited to* the following:

- **Policy and Regulations.** Copies of Navy advisories, directives, instructions, and regulations.
- **Status of Shipboard Environmental Equipment Installations.** Updates on the latest technology on board ships.
- **Vendor Information.** Prices; availability; product information (material data safety data sheets, technical data sheets, and Chemical Abstract Service (CAS) numbers); technical reports; and user experience.
- **Alternative Chemicals.** Facts on existing and newly developed alternatives or processes including vendor, toxicity, and application data.
- **Status of Military Documents Requiring Modifications.** Specifications, maintenance requirement cards, technical manuals, etc.
- **Miscellaneous.** EPA technician-certification programs; information from industry and professional organizations; EPA rules; more.

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